

# Lead Threshold Workshop

September 18, 2006

9 am to 1 pm

Byron Sher Auditorium  
Cal/EPA Headquarters

# Background

## Lead Report

- Summarize current information
- Findings

## Hazardous Waste Identification

- Total Threshold Limit Concentration (TTLC)

# Hazardous Waste Criteria

In California a waste is hazardous if:

- It meets the statutory definition (HSC 25117)
- It is listed or characteristic according to federal criteria
- It exhibits any characteristic of toxicity, reactivity, ignitability or corrosivity according to state criteria

# Hazardous Waste Criteria

- Federal toxicity threshold for lead
  - 5 mg/l (TCLP)
- California toxicity thresholds for lead
  - Soluble threshold limit concentration (STLC)
    - 5 mg/l (WET)
  - Total threshold limit concentration (TTLC)
    - 1,000 mg/kg
- Other Criteria
- Hazardous Waste Management

# Hazardous Waste Threshold Original TTLC

- Proposed in 1978
- Exposure route is ingestion, inhalation or dermal contact with waste
- Applied a 100-fold uncertainty factor to STLC values for “initial” TTLCs – later adjusted for five constituents, including lead
- Intended to approximate the potential for direct contact with improperly disposed waste

# Hazardous Waste Threshold- Original TTLC

- Initial draft of the TTLC for lead: 500 mg/kg
- British study findings (1980):
  - Heavy contamination: 10,000 mg/kg
  - Acceptable soil levels: 550 – 1,500 mg/kg
- DHS study recommended background levels >1,000 mg/kg should be unacceptable due to potential for ingestion by children via pica
- Final TTLC for lead: 1,000 mg/kg

# Hazardous Waste Threshold

## New TTLC

- Objective: Revise TTLC to improve protection of general population, including children, from direct exposure to lead-containing waste.
- Use updated scientific basis
  - Recalculate original value
  - Apply health-based model
    - IEUBK
    - Leadsread

# Hazardous Waste Threshold New TTLC

## Leadsread

- Health-based
- “Back-calculates” soil concentrations given other inputs
- Currently used by DTSC for school sites & cleanup assessments with lead



# Hazardous Waste Threshold New TTLC

## Exposure Scenario

- General population, including adults & children
- Mismanaged hazardous waste
- Waste is soil-like
- Exposure in residential, industrial, rural or mixed use locations – statewide
  - Vacant lots, parks, roadsides
  - Buildings constructed on formerly contaminated property
- Inhalation & ingestion

# Hazardous Waste Threshold New TTLC

## Assumptions

- Default parameters mostly
- 5  $\mu\text{g}/\text{dL}$  for lead in drinking water
- No backyard gardens
- 10  $\mu\text{g}/\text{dL}$  target blood lead concentration

# Hazardous Waste Threshold New TTLC

**Leadsread 7 soil concentration  
calculations (ug/g)**

	BLL = 10 µg/dL	
	99%	95%
Child	344	525

# Topics for Discussion

- Comments on TTLC proposal
  - Exposure scenario
  - Input parameter values
  - Assumptions
  - Other approaches

# Future activities

- Peer Review
- Rulemaking for new TTLC
- Consideration of alternative management standards

# Contact Information

Submit comments by October 31 to:

Nancy Ostrom

[nostrom@dtsc.ca.gov](mailto:nostrom@dtsc.ca.gov)

(916)322-3385

For updated info, subscribe to listserv at:

<http://www.calepa.ca.gov/Listservs/dtsc/>